AMENDMENT TO THE SPECIFICATION

Please amend the Specification as indicated hereafter.

On page 2, lines 14-19, the paragraph is amended as follows:

Typically, to decrease power consumption, supply voltages of the device are decreased. However, standard batteries are currently only available in pre-defined voltages (e.g. 1.5V, 3.0V). Therefore, it is possible that a desired decreased supply voltage falls in between two standard battery voltages, where only the higher voltage battery is usable in the design. This instance presents a problem for typical switching solutions, because the typical solution for switching the power ~~will~~ may not turn the backup battery off when main power is applied.

On page 6, lines 9-16, the paragraph is amended as follows:

The present ~~invention~~ disclosure indirectly detects the presence of a specified voltage source and automatically switches off an undesired voltage source. Given a voltage source at a given level, detecting a source at a lower potential is straightforward; however, disabling the higher voltage source, once the lower voltage source has been detected, is not. This is due to the fact that the switch is usually controlled by the detection, and the detection is controlled and powered by the higher potential. This ~~invention~~ disclosure makes use of the presence of the higher potential source, without draining any current from it, in combination with presence of the preferred voltage source to effectively break the current path from the higher potential source to the main circuit.

On page 6, lines 19-23, the paragraph is amended as follows:

System 100 comprises diode D1 102 and diode D2 104 with the cathodes of D1 102 and D2 104 connected to a common node 106, which is used to provide power to device 108. Voltage source V1 110 ~~is~~ includes the main power supply, and voltage source V2 112 ~~is~~ includes the backup supply. V1 110 is connected to the anode of D1 102 through switch 114, and voltage source V2 112 is connected to the anode of D2 104.

On page 7, lines 1-10, the paragraph is amended as follows:

In this configuration, when switch 114 is open, the higher voltage source that feeds node 106 ~~will~~ can be V2 112, since no voltage from V1 110 is present. As such, backup supply V2 112 ~~will~~ can provide power to device 108. When switch 114 is closed, whichever voltage supply has a higher potential, either V1 110 or V2 112, ~~will~~ can provide power. If V1 110 is the higher supply, then V2 112 ~~will~~ cannot ~~not~~ be providing power, and ~~will~~ can therefore have an extended life. However, if V1 110 is a lower voltage than V2 112, then V2 ~~will~~ can continue to supply power to device 108. Since the current trend is to reduce main power voltages below that of standard batteries, such a circuit in the related art is not acceptable for increasing battery (e.g. V2 112) life.

Specifics of the ~~Invention~~ [Disclosure]

On page 8, lines 12-20, the paragraph is amended as follows:

As alternatives to an n-channel depletion mode FET described herein, p-channel FET devices, or enhancement mode devices of either charge carrier can be used. For example, a p-channel enhancement mode FET can be substituted for Q1 202 as shown in FIGs. 2 and 3

without changing the circuitry. Further, an n-channel enhancement mode FET, or a p-channel depletion mode FET, can be used in the negative leg of V2 112 in place of Q1 202 to provide similar results to those shown in FIGs. 2 and 3. For low voltage swing applications, Q1 202 can be placed between D2 104 and common node 106, such as that shown in Fig. 4, which ~~will~~ can remove the diode drop across D2 104 as a potential barrier. Such a configuration ~~will~~ can allow V2 112 to be activated at lower voltages, since the diode drop across D2 104 ~~will~~ may not have to be overcome.

On page 8, line 21 – page 9, line 5, the paragraph is amended as follows:

The only constraints on Q1 202 is that Q1 202 draw much less current than is being sent to the device 108 when V2 112 is being used i.e., when Q1 202 is in the "on" condition, and that Q1 202's leakage current in the "off" condition, i.e., pinch-off, is so small as to not seriously affect V2 112's storage time. There are also other devices, other than the enhancement and depletion mode JFET that can perform the function of Q1 202, e.g., Metal-Oxide Semiconductor Field Effect Transistors (MOSFETs), Insulated Gate Field Effect Transistors (IGFETs), etc., that may or may not require the ~~present~~ presence of U1 204 or other circuitry. The present ~~invention~~ disclosure is not limited to the use of a transistor Q1 as described herein.

On page 9, lines 6-9, the paragraphs are amended as follows:

FIG. 3 illustrates a reset capability of the present ~~invention~~ disclosure which isolates the input of the controlling inverter from unwanted perturbations during powerup.

Reset IC U2 300 allows the system 200 of the present ~~invention~~ disclosure to allow for cleaner transitions between V1 110 and V2 112 when V1 ~~112~~ 110 is turned on.

On page 9, lines 12-22, the paragraphs are amended as follows:

In cellular telephones, PDAs, and laptop computers, many functions ~~must~~ can be saved during powerdown or low power conditions. Many new functions, such as adding larger startup capabilities, GPS capabilities, etc. may require more memory to save additional data, clock timing, etc. which place additional burdens on the backup power supply.

In a GPS receiver, certain constant functions ~~must~~ can be maintained even when the unit is turned off. Such functions include backup memory, time-keeping, etc. Maintaining such functions even when the system power, i.e., V1 110, is turned off, enable quicker position solutions after power up if the functions are maintained during power down states. Since many devices are now using low voltage main supplies, e.g., 1.8 volts, which are lower than the 3 volt batteries used for backup power, the present ~~invention~~ disclosure allows for the additional circuitry to be maintained even in a power down state while still preserving battery life.

On page 10, lines 2-11, the paragraphs are amended as follows:

By automatically disconnecting the backup battery of low power products in the presence of a preferred voltage supply source, ~~this invention~~ the above disclosed apparatus allows low voltage products to maximize their backup battery lifetime when the backup battery voltage ~~exceed~~ exceeds the supply voltage.

An apparatus in accordance with the ~~invention~~ disclosure comprises a field effect transistor, a first diode, a second diode, and an inverter. The field effect transistor is coupled to the secondary power source. The first diode is coupled between the field effect transistor and to a device to be powered, while the second diode is coupled between the primary power source

and the device to be powered. The inverter is coupled to a gate of the field effect transistor, and maintains the field effect transistor in a pinched-off condition and prevents a current flow from the secondary power source when the primary power source is available.